

Leaflet No. 38

March, 1941

CONSTRUCTION OF  
**SOD POULTRY HOUSE**

BY  
POULTRY BRANCH  
DEPARTMENT OF AGRICULTURE



Published by the Direction of  
HON. D. B. MacMILLAN

Distributed by  
Agricultural Extension Service,  
Department of Agriculture,  
Edmonton, Alberta.

Printed by A. Shnitka, King's Printer, 1941





# Construction of Sod Poultry House

Properly constructed sod poultry houses have proven satisfactory in many parts of Alberta. They are economical to build and if properly ventilated, are dry and warm in winter and cool in summer. Little cash outlay is required.

Materials required are poles, sods and straw for the main building, some 2" x 12" boards for window and door frames, some glass sash for an all-sod house, while lumber and sash will be needed where a frame front is used in place of a sod front.

## Sods

Sods should be cut from a spot where the sod is thick and dense. Generally, this will be found around a slough, rather than in prairie sod. Since the loose soil beneath the dense sod is a detriment, the furrow will have to be ploughed quite shallow. A 14" to 16" sulky plow will cut the sod nicely. The growth on the sod need not be cut, though frequently an area that has been pastured may have a dense root system and be quite suitable. Since the sods are to be laid into the wall as one would lay brick in a chimney, the length of each piece should be just twice the width of the ploughed furrow, and the wall will be just twice as thick as the width of the furrow. To cut the ploughed sods into lengths, with a measure the proper length, go down the outside furrows of the ploughed area, setting in short stakes indicating the length at which the sods are to be cut. Connect these stakes, across the furrows, with binder-twine and with a spade cut the sods into lengths where the twine crosses the furrows.

The sods should not be cut until the frame is in readiness, then they should be cut as needed and be laid before they dry out and crumble in the sun.

## Poles

These should be of good, sound material. Poles for roof supports should be about 4" in diameter at the butt, with very little taper and about 9' long, to allow for setting 2' 6" in the ground and to provide ample head room in the finished house. Poles for plates and ceiling, should not be less than 6" in diameter. All poles should be treated with creosote to preserve them.

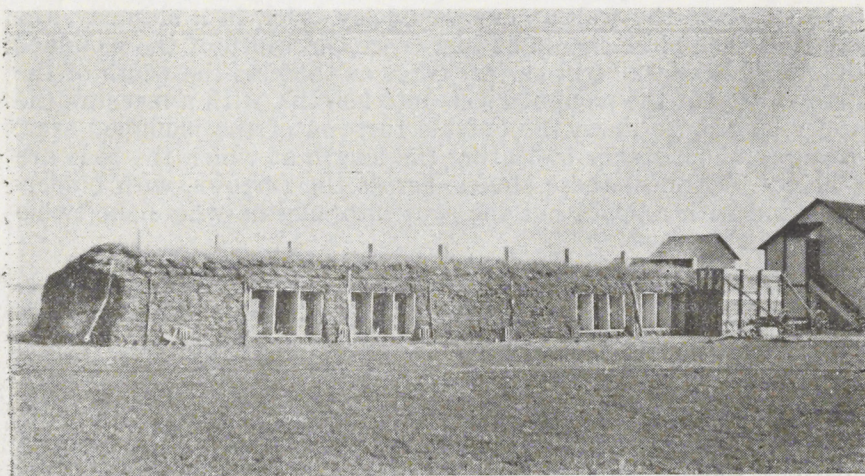
## Construction

**Frame:** The poles for roof supports should be set in post holes 2' 6" deep, spaced at regular intervals. With good posts, one row for front and rear walls and one in the centre of the house, will suffice. If the posts are small, two rows, one each about 6' 6" from the front and back walls, will be needed instead of one in the centre.



The end poles of each row should incline inward from the bottom and be notched to fit into the plates laid across the top of the other poles in the row. This will give added strength to the walls. Poles are laid close together, across the plates, to form the ceiling. A few of these ceiling poles should be notched to fit tightly onto the plates at spaced intervals, and be securely fastened with spikes. Thus, in the all-sod wall house, the frame leans a little inward on all four walls, which lessens the danger of walls being pushed outward. This type of frame provides a flat ceiling onto which a straw and dirt double-pitch roof is built as described later.

If a double-pitch frame is desired, it will be necessary to provide longer poles for the centre posts of the house in order to carry the ridge pole. For a one-in-two pitch, the centre poles will have to be 5' longer than the poles used for the front and back walls. Poles to carry the roofing material should be notched to fit onto the ridge pole and the wall plates, and be placed close together.



Front view of sod poultry house. Windows set too deep and too closely grouped.

The front and back walls should be 20' apart, the length of the walls depending upon the number of birds to be housed. Each 20' lineal length of a 20' deep house, will accommodate 100 birds.

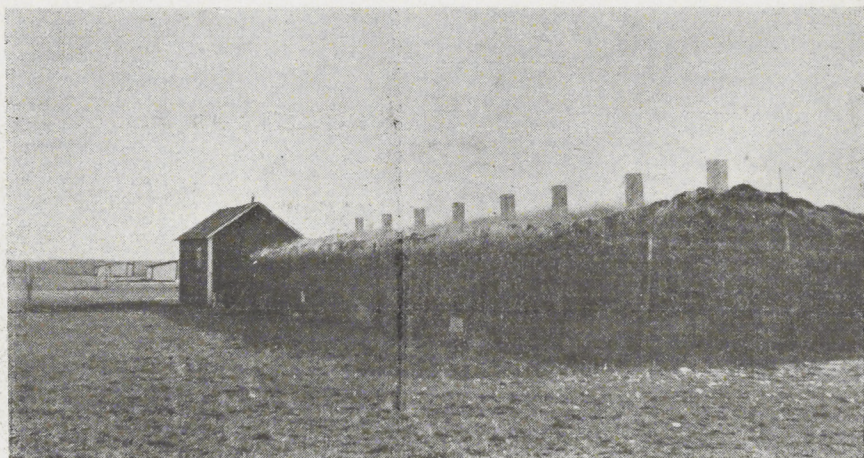
Where a frame and lumber front is to be used, it would be well to use the same type of pole frame and then square the face of the front poles by nailing on wedge-shaped pieces of wood to make the actual lumber wall perpendicular. Plans for the con-



struction of an all-board front house, can be obtained from the Poultry Branch or Extension Branch, Department of Agriculture, Edmonton.

If a sod front is desired, window and door frames will have to be built in before any sod is laid. Place the door in the centre of the house. Make the door and window frames of 2" x 12" boards. A piece of 2" x 4", the full height of the frames, should be nailed to the sides of the door and window frames about the centre. This will give the builder an opportunity to shape the sods and fit them tightly around the window and door frames as the wall is being laid, thus holding the frames tightly in place at all times. If this is not done, the sods will shrink from the frames as the wall settles. Another necessary precaution—make sure that none of the ceiling poles extend beyond the plates—the sods will settle and any projection from the frame work will leave holes in the walls.

**Ventilation:** If heat and forced ventilation is not provided for as shown in house plans supplied by the Poultry Branch, we recommend that in addition to wall and window frames, space should be provided for ventilation.



Back and end view of sod poultry house.

A box 18" long and 4" wide, lengthways to the front wall, should be set into place—the bottom of this should be open to the outside edge of the wall at a point above the normal snow line, and to the inside of the wall near the ceiling. Two such vents in a 20' x 20' section should be provided. Two ventilating shafts, 10" x 12" should be set through the ceiling, in each 20' x 20' section, by the centre supports. These shafts should be placed 10' apart, i.e., 5'



from each side wall and should reach from the floor to a point well above the roof that is to be built. Each shaft should have an opening at the rear, controlled by a slide. (See plans obtainable from the Poultry Branch, Department of Agriculture, Edmonton.)

### Walls

The frame being completed, the laying of sods in the walls may be started. A convenient vehicle for hauling sods can be made by laying planks on the axles of a wagon.

Begin laying the wall by placing two rows of sods, side by side, around the outside of the frame. The second tier is then placed on top of these at right angles to the first row, taking care to bind and break the joints at the corners so that the corners will retain their positions permanently. Continue placing tier upon tier, each at right angles to the preceding one. Care should be taken to cut notches in the sods placed around the door and window frames, so that they fit tightly around the 2" x 4" projection on the frames. The laying of sods should be done rapidly to prevent any drying out in the sun.



Sod poultry house with frame front. Double the amount of window space shown, is desirable.

Continue the wall until it is about a foot above the frame, then continue the outside row of sods another 8" x 10." This will provide a shoulder and make the sealing of the roof covering with the walls, possible. The walls will settle considerably, since a



lineal foot of wall built in this manner will weigh about 1,600 pounds.

### **The Roof**

Spread 4" to 6" of slough hay or straw, evenly over the poles forming the ceiling, and spread 6" loose soil evenly over the straw. Spread this soil to the shoulder left in the outside walls. Loose soil is better than sod for this purpose as it is less likely to crack as settling proceeds. Over this layer of soil, spread a thick layer of slough hay or straw, running up 10' or more to a peak ridge, so that there is a one-in-two pitch or more to the roof. More covering may have to be added as the building settles.

If a peak roof frame is used in construction, spread 6" of slough hay or straw over the roof, cover with a layer of well-moistened fine soil, to a depth of 6", and finish with a layer of well-grassed sods.

### **Attaching a Lumber Front**

The height of the poles carrying the lumber front, should be the same height as the poles of the roof support, because these posts and the plate will have to carry the roof as well as the lumber front. The end poles are placed inside the end walls and the lumber extended past the posts to the outside edge of the end walls. It is recommended that a piece of 2" x 4", on edge, be fitted vertically into the end of the sod wall, about the centre and that the lumber projecting past the end posts, be nailed firmly to the 2" x 4". This helps to seal the sod wall and lumber front.

### **Sealing the Eaves in Front**

It is advisable to have the roof poles extend one foot past the front wall of the lumber front house. Under these projecting poles, and running parallel with the wall, nail a 1" x 10" board on both the inside and outside of the wall, cutting out notches where necessary, in order to have the inside board come tight against the wall. Mix up clay and seal the area on top of these boards up to the level of the roof poles. Lay sods on these projecting roof poles, to a height of 8" to 10" in order to make a shoulder at the front similar to the shoulder on the other three walls, to seal the roof material to the lumber front. The straw and loose soil will be held in place by the rows of sods on the front and above the projecting roof poles.

It is also advisable to line a portion of the inside of the walls with lathes placed fairly closely together, at any points from which birds can reach the sods. Lining in this way will prevent any weakening of the walls by birds scratching and tearing at the sods.

If a double-pitch roof frame is used, the house should have a solid board ceiling, built in about 6' 6" from the floor.



